

# Lab Reports

Your Name

Date of the Experiment

Title of the Experiment

## **Purpose / Objective:**

Write 2 to 3 sentence explaining the purpose or the objective of the lab. Never claim to attempt to “prove: something, we simply can’t do that in our lab.

## **Partners:**

List all lab partners. Each group member should have a clearly defined active role in the process. Identify your role here.

## **Equipment / Diagram:**

List here all laboratory equipment used in the investigation. Include a detailed and labeled diagram to illustrate configuration of the apparatus.

## **Procedures:**

In your own words, and in complete sentences, list the steps you took to perform the experiment. It does not have to be in paragraph form and you may find a sequential list works better for you. It should be detailed and clear enough so that the reader could exactly duplicate your work. Be thorough, but do not include things such as cleaning up, entering data into a table, calculating results, or writing up the report. While they are parts of completing the lab, they are not part of the procedure you follow to perform the actual experiment.

## **Data:**

Include all data measured directly from the experiment in table form. Do not forget units. It in a table the units should be included in the column heading only. Using a spreadsheet for this would be helpful. IF you are to do any unit conversions or find average values they should appear hear.

## **Analysis:**

Include all graphs in this section. Each graph should be titled, have labeled axes and should be completed using a computer program such as Graphical Analysis, Microsoft Excel, or Logger Pro. Also include interpretation or analysis of graphs (calculations and significance of slope for example), and any calculations here. A sample calculation should be shown as well as all equations used. Unusual trends or results should be noted and explained here. Finally, for all experimentally obtained values, complete an error analysis for each. The following formula will be helpful.

$$Error = \frac{(Actual - Experiment al)}{Actual} * 100$$

Often times you will be obtaining an experimental value that can be compared to an actual value. However, sometimes we will use our own obtained values for actual and experimental.

**Other Guidelines:**

- Lab reports will be due several days after each experiment is completed in the lab.
- If you miss a lab due to an absence, it is not necessary to make up the experiment. You will be exempt from the grade and you will see an “es” in the grade book.
- Lab experiments are fair game on tests and quizzes.
- Lab reports will be graded on their completeness, neatness, organization, and complexity of analysis.
- Some labs may have a performance-based grade that will be included in your lab grade.
- **You may work together to complete a lab report, but you may not “farm out” portions of the lab to be completed by each member of the lab group. You are responsible for completing the lab report in its entirety.**

**Graphical Analysis:**

- Please copy down appropriate procedures for generating graphs on either Graphical Analysis or Microsoft Excel. I will demonstrate them once for you.
- **All members of the group are responsible for completing their own graphs using a computer generated graph. A handwritten graph will not be accepted.**